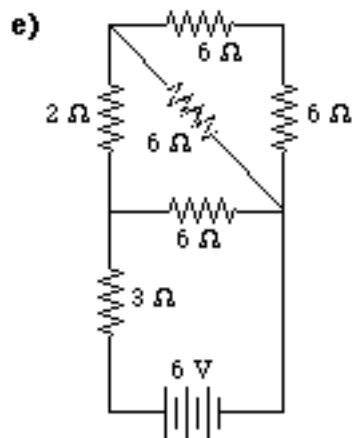
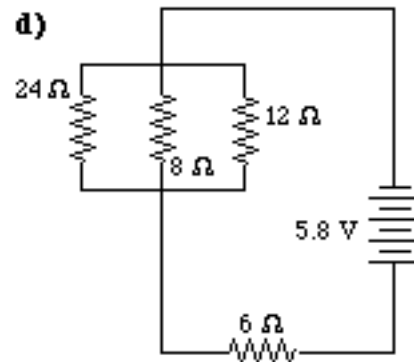
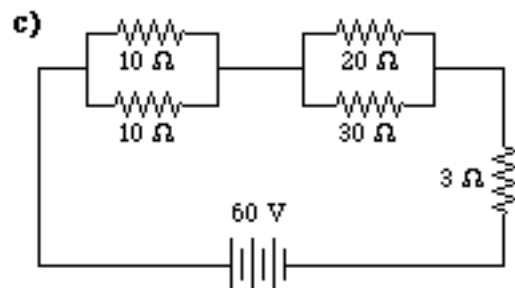
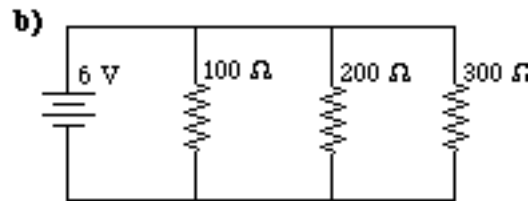
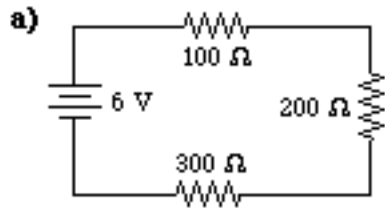


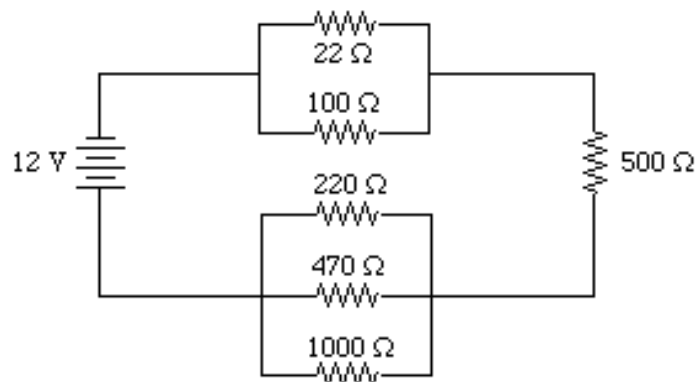
PHYSICS 12 CIRCUITRY WORKSHEET 3

1. Calculate all unknown resistances, currents and voltages for all devices in each of the following circuits.

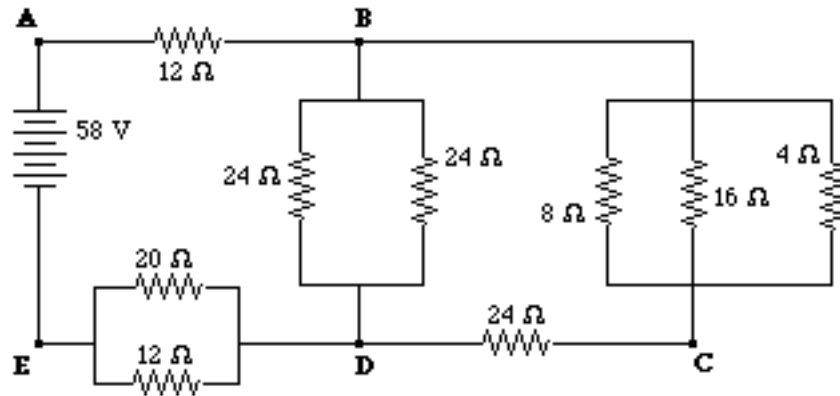


2. For the circuit shown below, determine the value of the following:

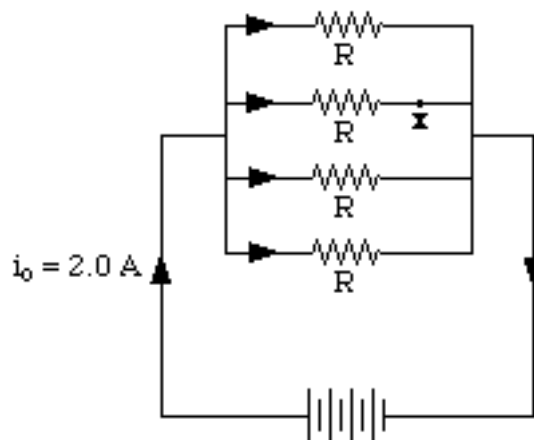
- a) the equivalent resistance for the entire circuit; b) the current drawn from the battery.
c) the current in the $100\ \Omega$ resistor. d) the voltage drop across the $500\ \Omega$ resistor.



3. For the following circuit, determine each of the following:
- the equivalent resistance of the entire circuit.
 - the total current drawn from the battery.
 - the voltage readings across **A-B**, **B-C**, **C-D**, **B-D** and **D-E**.
 - the current through each resistor.



4. Four identical resistors are connected in parallel, as shown below. The current is 2.0 A with all four resistors in the circuit. What will the current be if the wire at 'x' is cut?



- 600 Ω , 100 A (constant throughout), 1 V, 2 V, 3 V
 - (6 V constant through each device): 54.5 Ω , 0.11 A, 0.06 A, 0.03 A, 0.02 A
 - battery: 20 Ω & 3 A; left parallel resistors: 1.5 A & 15 V; right parallel resistors: 1.8 A, 1.2 A & 36 V each; 3 Ω resistor: 9 V & 3.0 A
 - battery: 10 Ω & .58 A; resistors in parallel: .096 A, .29 A, .193 A, 2.32 V for each; 6 Ω resistor: .58 A & 3.48 V
 - battery: 6 Ω & 1 A; 3 Ω resistor: 3 V & 1 A; middle resistor: 3 V & 0.5 A; 2 Ω resistor: 0.5 A & 1 V; diagonal resistor: 2 V & 0.33 A; top resistor & right side resistor: 1 V & 0.17 A each
- 648 Ω
 - 0.019 A
 - 0.0033 A
 - 9.3 V
- 28 Ω
 - 6.93 A
 - 25 V, 1.5 V, 15.5 V, 17 V, 16 V
 - clockwise from A: 2.1 A, .71 A, .71 A, .19 A, .38 A, .65 A, .8 A, 1.3 A
- 1.5 A